

***Glyptoplax consagae* new species**
(Crustacea, Decapoda, Brachyura, Panopeidae)
from the Gulf of California, Mexico,
with some notes on the distribution of *G. pugnax* Smith, 1870

by Michel E. HENDRICKX

Abstract. — During trawling operations on the continental shelf of the Gulf of California, Mexico, a new species of *Glyptoplax* Smith was found at one locality in the upper Gulf. This is the second species of the genus for the eastern Pacific.

Key-words. — Brachyura, Panopeidae, Gulf of California, eastern Pacific.

Résumé. — Lors d'un chalutage réalisé le long de la plate-forme continentale du golfe de Californie, Mexique, une nouvelle espèce du genre *Glyptoplax* Smith fut récoltée dans le nord du golfe. Il s'agit de la deuxième espèce du genre décrite pour le Pacifique est.

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The genus *Glyptoplax* was established by SMITH (1870) to accomodate six males and three females of a new species, *G. pugnax* collected by F. H. BRADLEY at Islas Perlas, on the Pacific coast of Panama. This monospecific genus soon received a second member when A. MILNE EDWARDS (1881 : 336)¹ described *G. smithii* on the basis of material collected in Florida, on the Atlantic coast of America.

Since that time, no other species has been added to the genus *Glyptoplax*. The Pacific species, *G. pugnax*, was again recorded from Punta Arenas, Costa Rica (RATHBUN, 1918) and cited in checklists of the brachyuran fauna of the Gulf of California, Mexico, successively by GLASSELL (1934) and GARTH (1960).

In March 1985, during sampling activities on the continental platform of the northern Gulf of California, México, aboard the research vessel "El Puma" of the Universidad Nacional Autónoma de México (CORTES 2 Cruise), two male specimens of a goneplacid-like brachyuran crab were collected in shallow water using a semi-commercial otter-trawl. These specimens were left unidentified until 1988 when the author had the opportunity to compare them to the very rich collection of Panopeidae and Goneplacidae held at the Laboratoire

1. According to the zoological records and to the "Registre d'entrée" of publications held by the Muséum national d'Histoire naturelle, Paris, page 336 of A. MILNE EDWARDS' work was, indeed, published in 1881 and not in 1880 as stated by RATHBUN (1918).

d'Arthropodes of the Muséum national d'Histoire naturelle of Paris, through the courtesy of Dr. D. GUINOT.

The results of this comparative analysis indicate that the specimens from the northern Gulf of California present affinities with *Glyptoplax pugnax*, the type-species of *Glyptoplax* Smith, and belong to a new species which is described herein.

The holotype is deposited at the Muséum national d'Histoire naturelle, Paris (MP), and the paratype is kept at the Mazatlán Marine Station, Mazatlán (EMU).

***Glyptoplax consagae* sp. nov.**

(Figs. 1, 2A-C; pl. I)

MATERIAL EXAMINED. — CORTES 2 cruise, station 37, 16.III.1985; 31°18' N-114°25' W, southeast of Rocas Consag, Baja California, trawling at 28 m, fine sand : 1 ♂ 12.2 × 17.3 mm (MP-B 20896) and 1 ♂, without chelipeds, 11.9 × 16.5 mm (EMU-2623).

TYPE. — The male with chelipeds (MP-B 20896) is the holotype. The other male (EMU-2623) is the paratype.

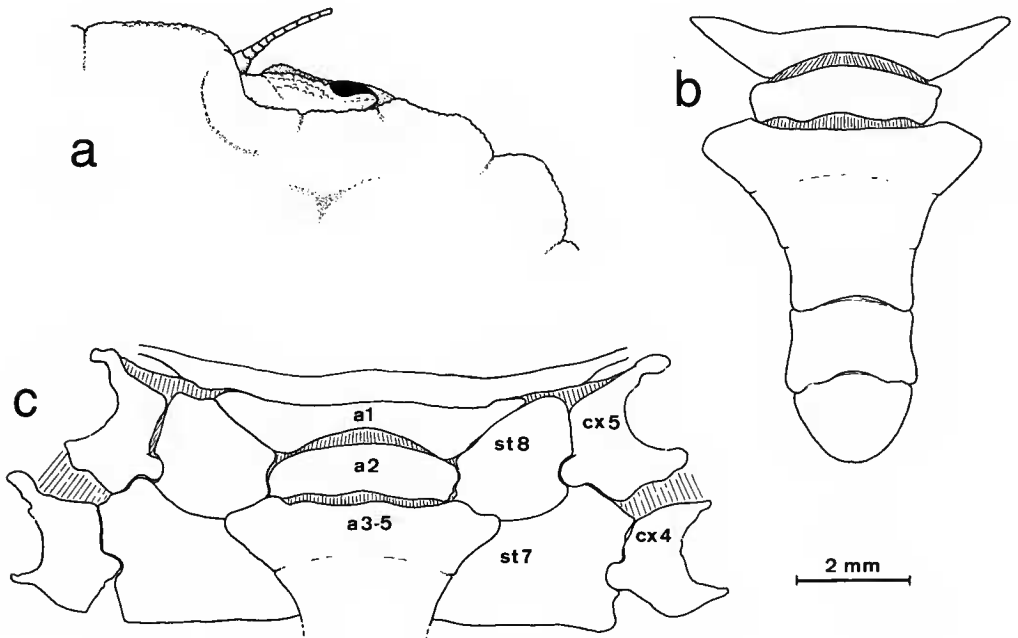


FIG. 1. — *Glyptoplax consagae* sp. nov., holotype ♂ 12.2 × 17.3 mm (MP-B 20896) : a, orbital region, dorsal ; b, abdomen ; c, sternal-abdominal view at level of fourth and fifth pereopods.

a1, a2, a3-5, first, second and third to fifth abdominal segments ; st7, st8, seventh and eighth sternites ; cx4, cx5, fourth and fifth coxae of pereopods.

DESCRIPTION

Carapace subhexagonal, broader than long, strongly convex antero-posteriorly, less so from side to side, with the anterolateral teeth slightly upturned; surface finely granulate; regions not well defined, separated by shallow sulci, protogastric and hepatic lobes more prominently indicated. Carapace wider at level of fourth tooth. Front deflexed, edge granulate, horizontal in frontal view, biconvex in dorsal view; a shallow, V-shaped, median notch.

Orbit relatively wide; upper orbital margin straight, flat, with two shallow sutures; inner orbital angle unobscured, not marked by a tooth or tubercle; eyestalk very long, granulate, without a tubercle; lower orbital margin granulate, with a short inner tooth and a low, convex outer lobe; outer orbital tooth weak.

Anterolateral border very short, arched, with five marginal teeth, all granulate; first (outer orbital tooth) and second fused, separated by a shallow sinus, the two together a little wider than third; third wide, obtusely triangular and with a rounded tip, slightly upturned, well separated from the fourth tooth, the later similar to third but more upturned; fifth tooth very small, reduced to a small indentation.

Third maxilliped granulate; distal border of merus concave, with a slightly projecting outer angle; ischium subrectangular, as wide as merus and with a convex inner margin; palp coarse.

Chelipeds massive, very strong, slightly unequal (in male), the fingers longer and slender in small chelae. Merus finely granulate; a sharp upper ridge, made up of irregular, rounded, large granules, this ridge ending in a sharp subterminal tooth; a subterminal sulcus parallel to the outer distal border of merus. Carpus finely granulate, outer face rounded, without protuberances; a stout triangular tooth at the inner angle; a well-defined sulcus parallel to the distal border. Manus strongly inflated, smooth, with a ill-defined shallow furrow on the upper margin of large chelae; fingers compressed laterally, incurving, their tips slender, curved and crossing; cutting edges of fingers parallel, armed with sharp teeth and denticles throughout their length.

Pereiopods slender; moderately long, slightly compressed laterally and smooth; carpus and propodus fringed with long hairs on anterior and posterior margins; dactylus almost straight, with one posterior fringe of long hairs and three anterior fringes of shorter hairs.

Male first abdominal somite short, relatively broad, lateral margin acute, not reaching the coxa of fifth pereopod; second somite very narrow; first and second somites leaving sternite eight largely exposed; third to fifth somites fused; sixth somite wider than long, lateral margins slightly concave, distal margin wider than proximal; telson triangular, with rounded tip.

Male first pleopod long, robust, cylindrical, slightly curved and slightly tapering toward tip. Accessory process of tip short, at a right angle with shaft; median process (or lobe) high, opening small; four long subterminal spines at base of accessory process; lateral process (or tooth) long and slightly deflexed.

Colour : Ventral side of carapace whitish. Dorsal side of carapace brown-grey, with spots of black pigments, except for the whitish fifth tooth and posterolateral edges, and the yellowish-brown frontal edge; anterolateral teeth (except last) darker. Ambulatory legs white,

partially mottled with dark-brown on the upper and posterior sides. Carpus of both chelipeds light brown, dorsally mottled with dark brown; chelae beige, speckled with dark brown on the upper crest; fingers brownish (from color slide of live specimens).

ETYMOLOGY. — The species is named after Father Consag, a Jesuit who sailed up the Gulf of California in 1746 and led the first marine expedition that reached the head of the Gulf (where Roca Consag, the type-locality of the new species, is located) and the Colorado River.

DISTRIBUTION. — The species is so far known only from the type-locality, in the upper Gulf of California, México.

REMARKS

Glyptoplax consagae was compared to type specimens of *G. pugnax* from Panama held at the Muséum national d'Histoire naturelle (1 ♂ 6.5 × 9.0 mm, 1 ♀ 5.0 × 6.8 mm; MP-B 10151) and it was found that the new species shares several important characteristics with the type-species of *Glyptoplax*: the sternum-abdomen organization is strikingly similar, with

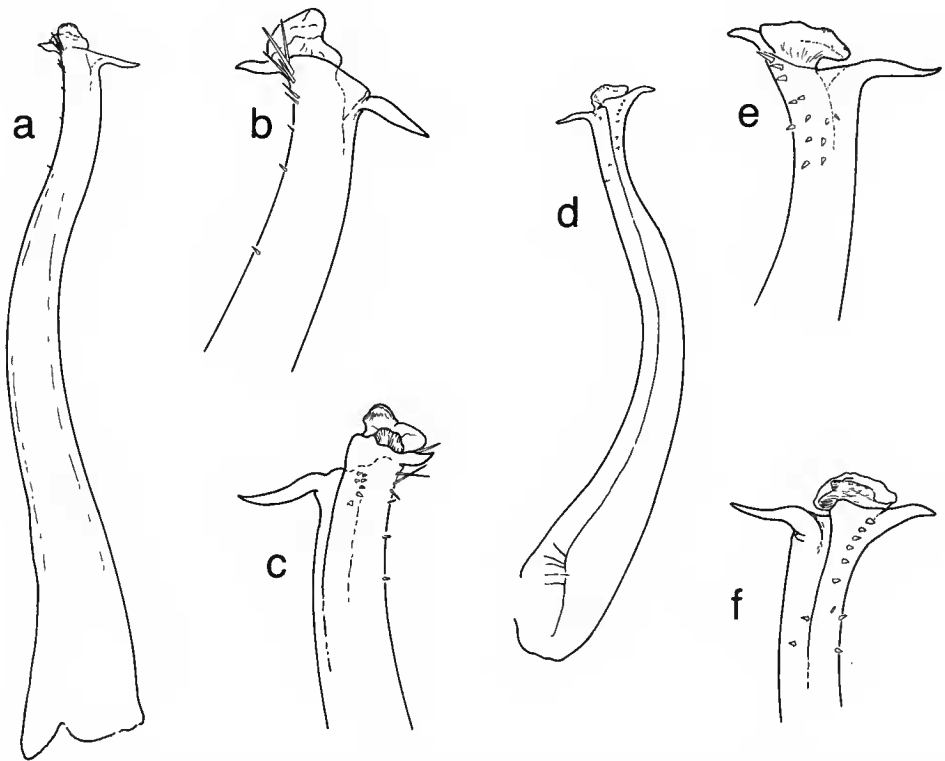


FIG. 2. — Male first pleopod of species of *Glyptoplax* Smith. a-c, *G. consagae* sp. nov., holotype ♂ 12.2 × 17.3 mm (MP-B 20896): a, pl 1; b-c, tip of pl 1. — d-f, *G. pugnax* Smith, syntype ♂ 6.5 × 9.0 mm (MP-B 10151): d, pl 1; e-f, tip of pl 1 (d-f redrawn from fig. 23 of GUINOT, 1969).

sternite eight not covered by the first two abdominal somites and widely united to sternite seven to cover the groove through which the penis passes; the lateral piece of sternite eight separates almost completely the first abdominal segment from coxa of pereopod 5; the first pleopod of the two species (fig. 2) are very similar in shape and the ornamentation of the tip differs only in details; the stout, inflated hands with long, compressed fingers of the male chelipeds are unmistakable; the third maxillipeds are also similar in shape, although in *G. pugnax* the merus is narrower anteriorly. Considering our present state of knowledge of phylogenetic relationships among Panopeidae and Goneplacidae, these similarities indicate that *G. consagae* can be considered as a member of *Glyptoplax*, and this despite differences existing between it and the type-species of this genus, in particular in the shape of the carapace (i.e. carapace very convex and front strongly deflexed in *G. consagae*), and of the orbit (i.e. no distinct inner orbital tooth and upper orbital margin parallel to front in *G. consagae*) (table 1).

Glyptoplax consagae also shares some morphological characteristics with *G. smithii*, including the areolation of the carapace, the shape of the antero-lateral border and the structure of the orbital regions. But as noted by GUINOT (1969 : 259), *G. smithii* does not present the typical sternum-abdomen organization of the genus *Glyptoplax* (i.e. the first

TABLE 1. — Main differences between *Glyptoplax consagae* sp. nov. and *G. pugnax* Smith, 1870 (males only).

	<i>Glyptoplax consagae</i>	<i>Glyptoplax pugnax</i>
1. Carapace	Regions obscure, separated by shallow sulci. Carapace strongly convex anteriorly; front deflexed, its anterior margin biconvex in dorsal view, almost straight in frontal view. Anterolateral teeth 3-4 obtusely triangular, with rounded tip; 5th tooth very small.	Regions well marked, separated by deep sulci. Carapace almost flat; front projecting in an horizontal plan, with a median depression, curved in frontal view. Anterolateral teeth 3-4 sharp; 5th tooth well developed.
2. Orbit	Inner orbital angle unobscure; upper orbital margin straight, parallel to frontal line, sutures shallow. Ocular peduncle long, without tubercle.	Inner orbital angle marked with a strong tooth projecting above front; upper orbital margin irregular, deeply notched, directed obliquely backward. Ocular peduncle short, with a strong granular tubercle anteriorly, at base of cornea.
3. Cheliped	Carpus finely granulate; inner tooth short, obtuse. A strong, tuberculate, upper ridge on merus, ending in a sharp subterminal tooth.	Carpus with patches of coarse granules, bumpy on the outer face; inner tooth long, acute. Ridge on upper margin of merus strong, tuberculate, without a distinct subterminal tooth.
4. First pleopod	Median lobe higher, opening narrow; a group of four long subterminal spines.	Median lobe flatter, opening wide; a group of three short subterminal spines.

abdominal somite is wider and reaches the coxa 5; the sternite 8 is only partly uncovered and narrowly in contact with sternite 7) and the tip of the male first pleopod is distinct (see GUINOT, 1969 : fig. 24). In fact, GUINOT (*loc. cit.*) concluded that *C. smithii* should perhaps be excluded from this genus. All three species of *Glyptoplax*, however, present the basic pleopod morphology showed by many panopeid genera (see MARTIN and ABELE, 1986, for discussion). Their peculiar sternum-abdomen organization (more advanced towards a catametopous organization, *sensu* GUINOT, 1969, in the case of *G. pugnax* and *G. consagae*) set them apart from the other Panopeidae Ortmann, 1893 (i.e. the species included in the Panopeidae Eucratopsinae; see GUINOT, 1969 : 249; 1970 : 1079; 1978 : 276). For GUINOT (oral communication, November, 1988) the pleopod structure indicates the phyletic relationships with the panopeid line.

Glyptoplax pugnax, a species originally described from Panama (SMITH, 1870) has also been reported from Costa Rica (RATHBUN, 1918). These are the only records for which the locality is known with certainty. The record of *G. pugnax* for the Gulf of California by GARTH (1960) is based upon the list presented by GLASSELL (1934) for the same area (GARTH, *in litt.*). GLASSELL (*op. cit.*), who gave no precise collecting locality for this species, made most of his collections in the northern Gulf of California, precisely the area where the new species was found. A search by J. S. GARTH in the Allan Hancock Foundation collections was unsuccessful in locating specimens of *G. pugnax* (GARTH, *in litt.*)¹.

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1. Another search, at the Smithsonian Institution, Washington D.C., indicates that there is no material of this species available for the Gulf of California (MANNING, *in litt.*).

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PLATE I

Glyptoplax consagae sp. nov., holotype ♂ 12.2 × 17.3 mm, Roca Consag, Gulf of California, Mexico : a, frontal view ;
b, carapace and chelipeds, dorsal view; c, chelipeds, frontal view.



PLATE I